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Supplemental Material

The Association between Dust Storms and Daily Non-Accidental Mortality in the United States, 1993-2005

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Figure S5: Percent increase in total non-accidental mortality associated with dust storms by lag day, broken down by location and method of assigning weather forecast zones to counties. Column labels indicate different methods for assigning dust storms to counties. Under the 5%, 10%, and 25% assignment methods each storm is assigned to all counties overlapping at least

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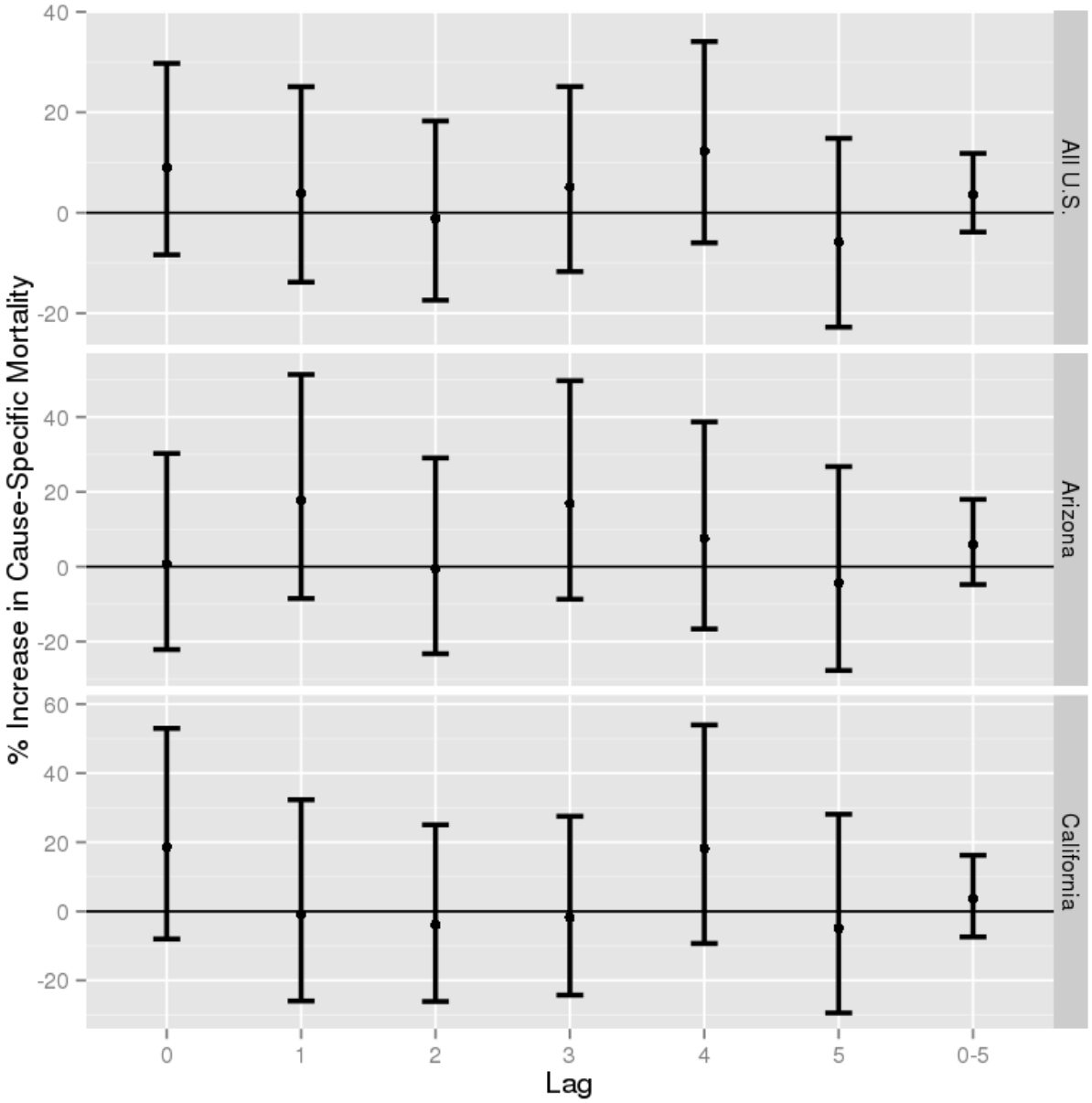
Location	**Rural Only?**	**Linear Scale Model**		**Log Scale Model**		**Number of Monitors**	**Number of Storms**
		Coefficient (95% CI)	**p-value**	**% Increase (95% CI)**	**p-value**		
All U.S.	No	77.6 (59.8, 95.4)	$<10^{-16}$	99.1 (83.6, 115.9)	$<10^{-16}$	168	204
	Yes	75.8 (35.3, 116.3)	0.0003	81.3 (45.8, 125.4)	$<10^{-16}$	43	136
Arizona	No	74.8 (54.8, 94.7)	$<10^{-16}$	89.1 (74.1, 105.3)	$<10^{-16}$	74	118
	Yes	70.5 (19.8, 121.2)	0.0067	56.8 (21.8, 102.0)	0.0006	23	89
California	No	82.5 (53.2, 111.8)	$<10^{-16}$	153.9 (92.8, 234.3)	$<10^{-16}$	44	46
	Yes	130.1 (25.3, 234.8)	0.0169	234.3 (90.0, 488.1)	0.0002	12	33



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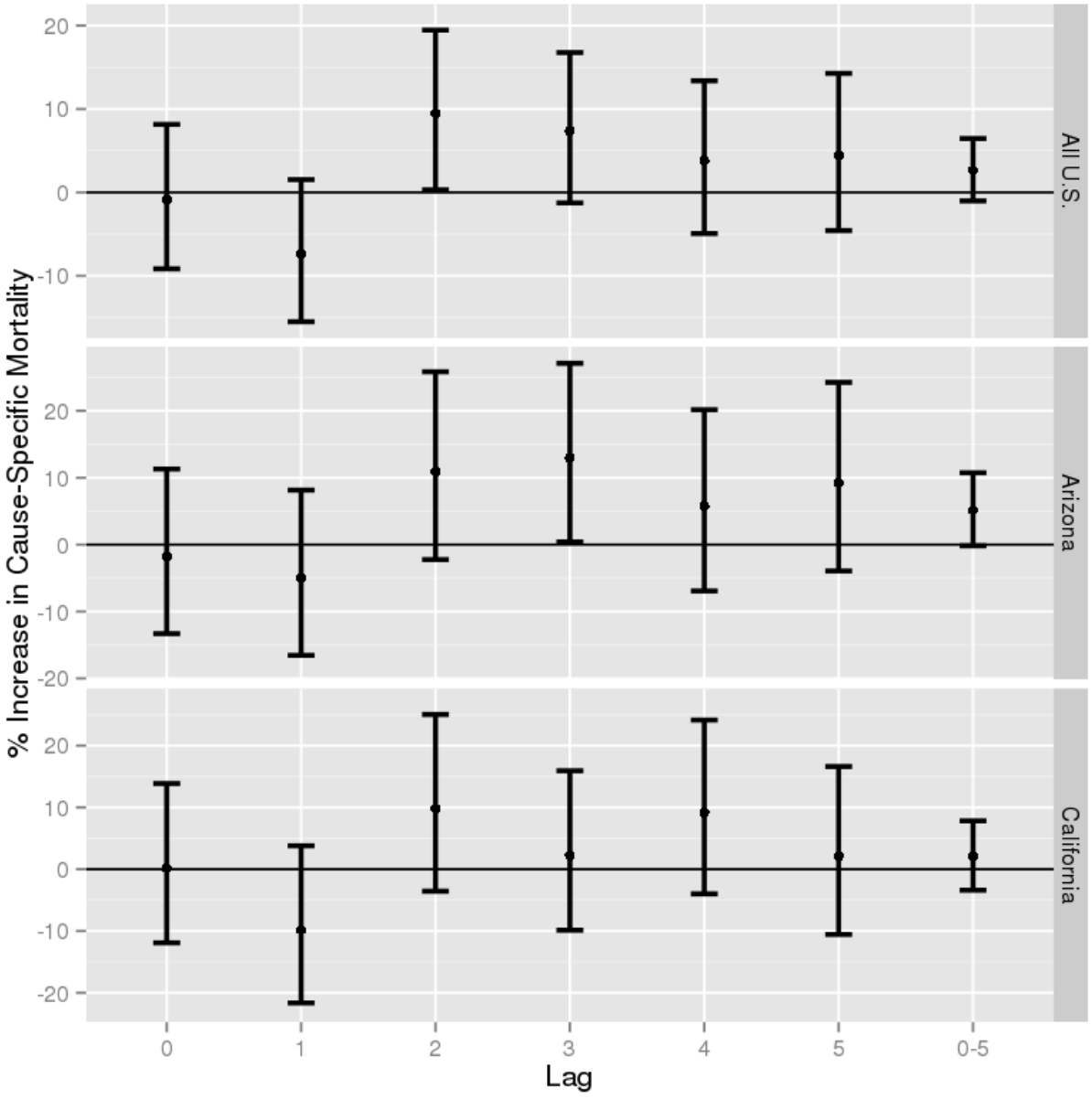

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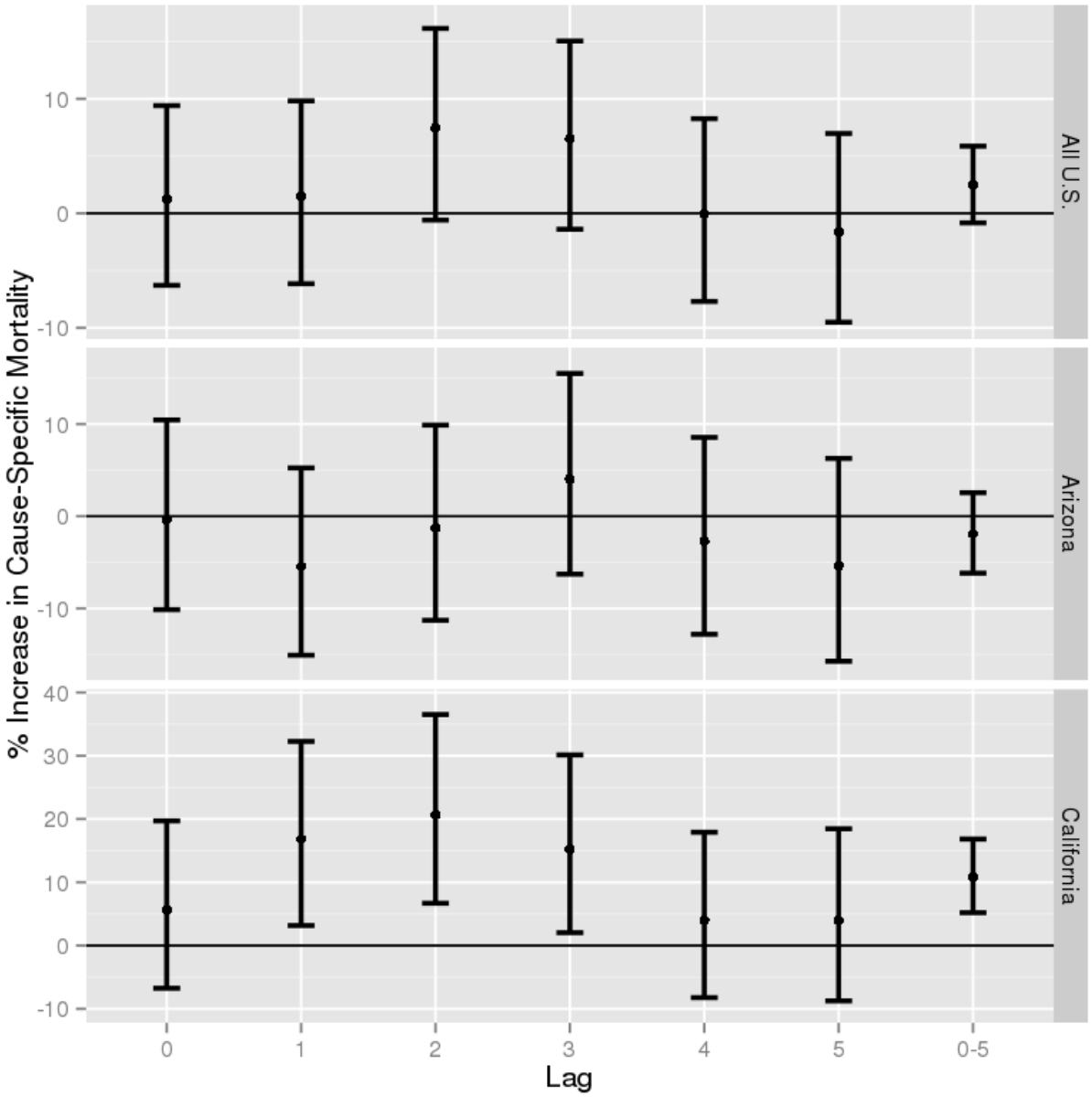

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		% Increase in Mortality (95% CI)	p-value	Number of Storms	Number of Mortalities
Primary Model				141	49427
	Lag 2	7.4 (1.6, 13.5)	0.011		
	Lag 3	6.7 (1.1, 12.6)	0.018		
	Lag 0-5	2.7 (0.4, 5.1)	0.023		
Primary Model + Precipitation				141	49427
	Lag 2	7.4 (1.6, 13.5)	0.012		
	lag 3	6.7 (1.1, 12.6)	0.018		
	Lag 0-5	2.7 (0.3, 5.1)	0.026		
Primary Model + Heat Waves				141	49427
	Lag 2	7.3 (1.6, 13.4)	0.012		
	Lag 3	6.8 (1.2, 12.7)	0.017		
	Lag 0-5	2.7 (0.3, 5.1)	0.025		
Primary Model + PM_{10}				141	49427
	Lag 2	7.4 (1.6,13.5)	0.012		
	Lag 3	6.7 (1.1, 12.6)	0.018		
	Lag 0-5	2.6 (0.3,5.1)	0.029		
Primary Model + Ozone				103	47983
	Lag 2	7.6 (1.7, 13.8)	0.011		
	Lag 3	7.3 (1.6, 13.8)	0.011		
	Lag 0-5	3.0 (0.6, 5.4)	0.014		
Primary Model + $PM_{2.5}$				96	26196
	Lag 2	15.8 (5.6, 27.1)	0.0018		
	Lag 3	7.6 (-1.5, 17.5)	0.103		
	Lag 0-5	3.7 (-0.4, 7.9)	0.076		
Primary Model ($PM_{2.5}$ Complete Cases Only)				96	26196
	Lag 2	15.6 (5.4, 26.8)	0.0021		
	Lag 3	7.1 (-1.9, 16.9)	0.124		
	Lag 0-5	3.5 (-0.5,7.7)	0.090		

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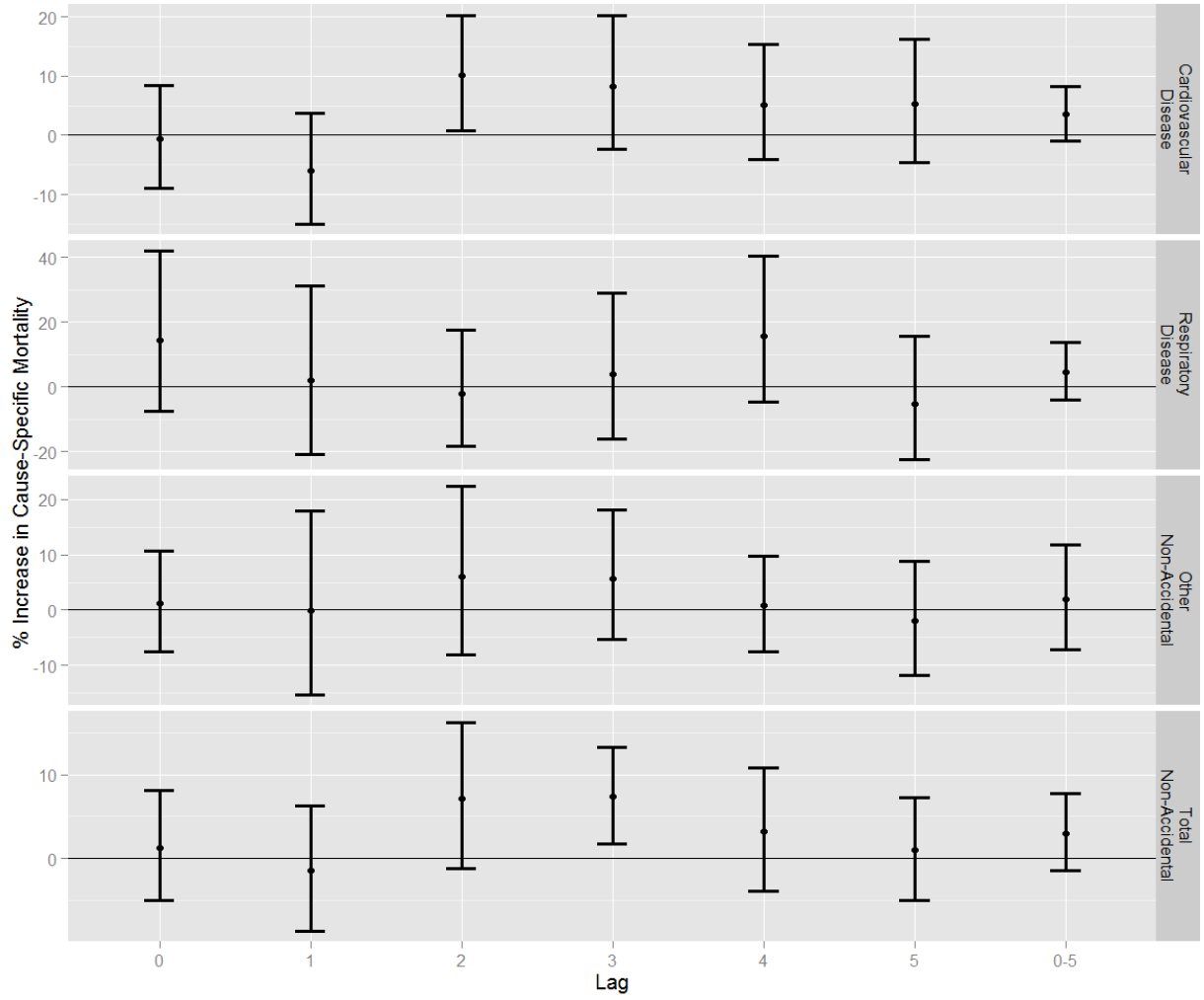
Effect Modifier	Implementation	*p*-value
Day of Week	Factor (7 levels)	0.821
Region	Factor (5 levels)	0.586
Year	Factor (3 levels)	0.614
Year	Linear	0.678
Month	Factor (12 levels)	0.471
Hour First Observed	Linear	0.991
Hour First Observed	Natural Spline (3 d.f.)	0.977
Duration	Linear	0.572



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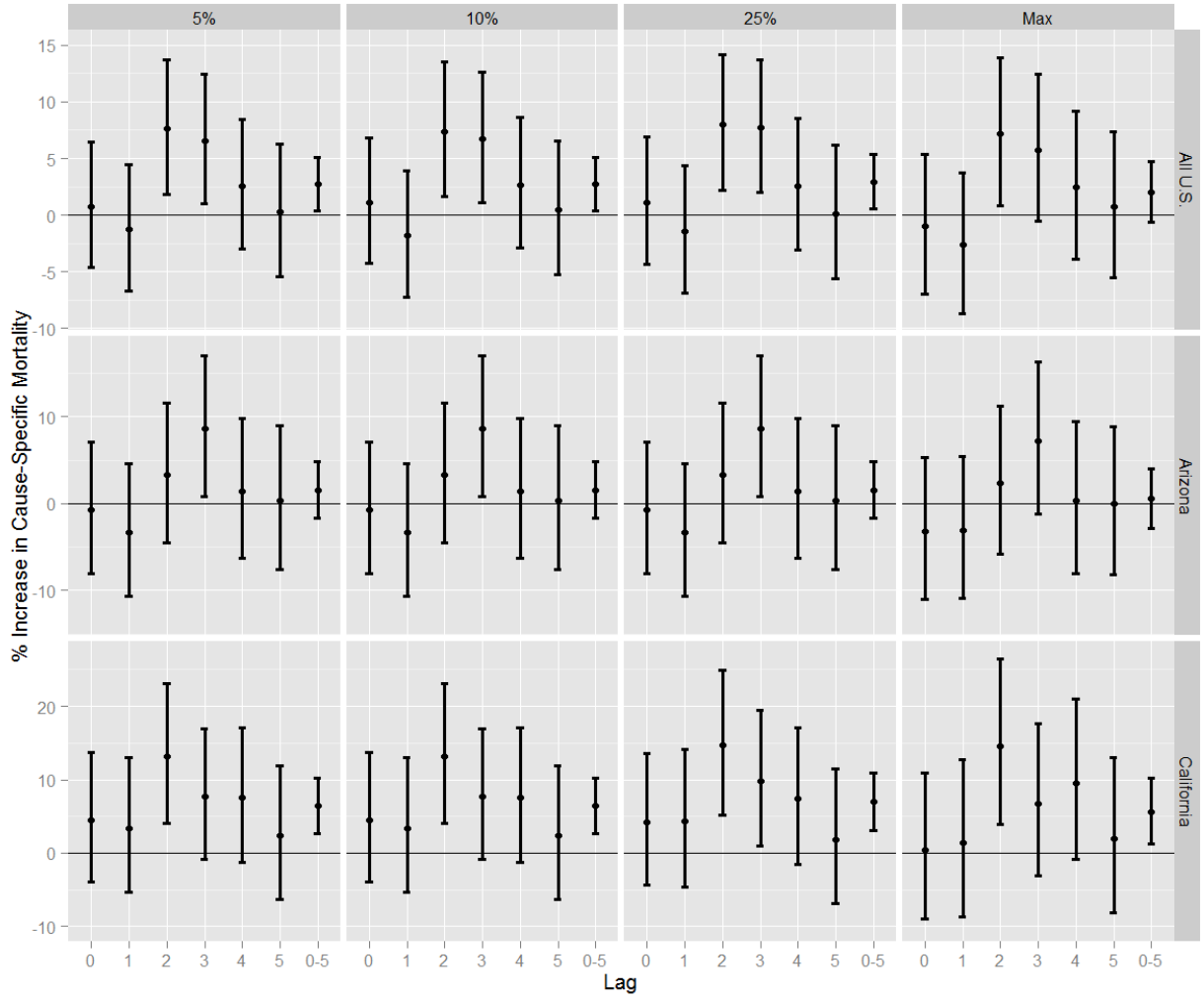

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Assignment Method	Location	Storm Events	Non-Accidental Mortalities
5%	All U.S.	152	50115
	Arizona	65	22838
	California	41	23918
10%	All U.S.	141	49427
	Arizona	65	22838
	California	41	23918
25%	All U.S.	140	48781
	Arizona	65	22829
	California	41	23361
Max	All U.S.	132	39885
	Arizona	62	19899
	California	40	18358